

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (CURRENTLY AMENDED) An identification photo system that obtains image data for an identification photo of a person from image data of the person, said identification photo system comprising:

an automatic correcting device that automatically corrects the image data of the person,

wherein said automatic correcting device detects a background area in said image data, abstracts a person area based on the background area, compares a size of the person area in said image data with a predetermined size, and changes the size of an image based on the size of the person area so that the size of the person area is the predetermined size,

wherein said automatic correcting device comprises:

an area separating device that separates the image into a person area and a background area;

a background changing device that changes colors of the background area to a predetermined color;

an abstracting device that abstracts a print area required for the identification photo from the image according to the size of the image, and, wherein the area separating device, the background changing device, and the abstracting device are all physically integrated into a single camera.

2. (PREVIOUSLY PRESENTED) The identification photo system as defined in claim 1, wherein said automatic correcting device corrects at least one of density, color balance, luminance and saturation of the image of the person.

3. (ORIGINAL) The identification photo system as defined in claim 1, wherein said automatic correcting device comprises:

a skin pigmentation area abstracting device that abstracts a skin pigmentation area from the image;

a skin pigmentation correction value calculating device that calculates skin pigmentation correction values according to colors of the skin pigmentation area abstracted by said skin pigmentation area abstracting device and a predetermined skin pigmentation correction target value; and

a color correcting device that corrects the colors of the skin pigmentation area according to the skin pigmentation correction values calculated by said skin pigmentation correction value calculating device.

4. (ORIGINAL) The identification photo system as defined in claim 3, wherein said color correcting device corrects colors of all the image according to the skin pigmentation correction values calculated by said skin pigmentation correction value calculating device.

5-6. (CANCELED)

7. (ORIGINAL) The identification photo system as defined in claim 1, wherein said automatic correcting device comprises:

a cloth area abstracting device that abstracts a cloth area from the image; and

a cloth changing device that changes image data of the cloth area to image data of predetermined cloth.

8. (ORIGINAL) The identification photo system as defined in claim 1, further comprising a printer that prints the identification photo from the image data for the identification photo.

9. (CURRENTLY AMENDED) An image processing method in which image data for an identification photo of a person is obtained from image data of the person, said image processing method comprising the steps of:

abstracting a skin pigmentation area from an image of the person;

calculating skin pigmentation correction values according to colors of the abstracted skin pigmentation area and a predetermined skin pigmentation correction target value;

correcting the colors of the skin pigmentation area according to the calculated skin pigmentation correction values;

detecting a background area in said image data;

abstracting a person area in said image data based on the background area;

comparing a size of the person area in said image data with a predetermined size; and

changing the size of the image based on the size of the person area so that the size of the person area is the predetermined size,

wherein the step of detecting the background area comprises:

comparing a plurality of areas of the image data with a reference background area; and

determining each of the plurality of areas to be a part of the background area based on the comparison, and

wherein the reference background area includes at least one corner area of the image data.

10. (CURRENTLY AMENDED) An image processing system for generating identification image data from an original image data of a person, comprising:

an abstracting device configured to determine a person area of the original image data based on a background area;

an image size correcting device configured to change a size of the person area to a predetermined person area size based on the size of the person area abstracted by the abstracting device; and

an image data generating device configured to generate the identification image data based on the changed sized person area such that the identification image data includes a cut guidance area within a print area,

wherein the cut guidance area is smaller than the print area, and
wherein the abstracting device, the image size correcting device, and the image data generating device are all physically integrated into a single camera.

11. (CURRENTLY AMENDED) The image processing system ~~of~~ as defined in claim 10, wherein the abstracting device data is configured to detect a facial area of the person in the original image data based on the person area.

12. (CURRENTLY AMENDED) The image processing system ~~of~~ as defined in claim 10, further comprising:

a color correcting device configured to correct at least one of density, color balance, luminance and saturation of an image of the person.

13. (CURRENTLY AMENDED) The image processing system ~~of~~ as defined in claim 12, wherein the color correcting device comprises:

a skin pigmentation area abstracting device configured to abstract a skin pigmentation area from the original image data;

a skin pigmentation correction value calculating device configured to calculate skin pigmentation correction values according to colors of the skin pigmentation area abstracted by the skin pigmentation area abstracting device and a predetermined skin pigmentation correction target value; and

a skin pigmentation correcting device configured to correct the colors of the skin pigmentation area according to the skin pigmentation correction values calculated by said skin pigmentation correction value calculating device.

14. (CURRENTLY AMENDED) The image processing system ~~of~~ as defined in claim 10, wherein the image data generating device comprises:

a head position detecting device configured to detect a head position of the person in the original image data; and

a cut guidance generating device configured to generate a cut guidance in the print area based on the head position detected by the a head position detecting device.

15. (CURRENTLY AMENDED) The image processing system ~~of~~ as defined in claim 14, wherein the cut guidance generating device is configured to outline the cut guidance area by at least one of a solid line, a broken line, marks at corners, and configured to differentiate colors between the cut guidance area and a remainder of the printer area.

16. (PREVIOUSLY PRESENTED) The identification photo system as defined in claim 1, wherein said automatic correcting device is configured to determine the person area as being an area of the image data other than the background area.

17. (PREVIOUSLY PRESENTED) The identification photo system as defined in claim 1, wherein said automatic correcting device is configured to compare a plurality of areas of the image data with a reference background area and configured to determine each of the plurality of areas to be a part of the background area based on the comparison.

18. (PREVIOUSLY PRESENTED) The identification photo system as defined in claim 17, wherein the reference background area includes at least one corner area of the image data.

19. (PREVIOUSLY PRESENTED) The image processing method as defined in claim 9, wherein said step of abstracting the person area the image data comprises determining the person area as being an area of the image data other than the background area.

20-21. (CANCELED)

22. (CURRENTLY AMENDED) The image processing system ~~of~~ as defined in claim 10, wherein said abstracting device is configured to determine the person area as being an area of the image data other than the background area.

23. (CURRENTLY AMENDED) The image processing system ~~of~~ as defined in claim 10, wherein said abstracting device is configured to determine

the background area based a comparison of a plurality of areas of the image data with a reference background area.

24. (CURRENTLY AMENDED) The image processing system of—as defined in claim—10_23, wherein the reference background area includes at least one corner area of the image data.

25. (CURRENTLY AMENDED) A—An image processing method—for processing an image, comprising:

determining a background area of an image;

determining a person area of the image as an area of the image other than the background area of the image; and

sizing the image based on a size of the person area of the image such that the size of the person area is a predetermined person area size,

wherein the step of determining the background area of the image comprises:

separating the image into a plurality of areas; and

determining whether or not the each area of the plurality of areas

belongs in the background area based on any one or more of a

comparison of the each area with a reference background area, a size of the each area, or an average coordinate of the pixels of the each area, and
wherein the reference background area includes at least one corner of the image and wherein the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the comparison of the each area with the reference background area includes determining that the each area belongs in the background area if

a difference between an average luminance value of the pixels of the each area and an average luminance value of the reference background area is within a predetermined luminance difference threshold and a difference between an average chromaticity value of the pixels of the each area and an average chromaticity value of the reference background area is within a predetermined chromaticity difference threshold, or

a difference between an average red (R) value of the pixels of the each area and an average R value of the reference background area is within a predetermined R difference threshold, a difference between an average green (G) value of the pixels of the each area and an average G

value of the reference background area is within a predetermined G difference threshold and a difference between an average blue (B) value of the pixels of the each area and an average B value of the reference background area is within a predetermined B difference threshold.

26. (CANCELED)

27. (CURRENTLY AMENDED) The image processing method of—as defined in claim 26, wherein the step of separating the image into the plurality of area comprises:

comparing properties of adjoining pixels of the image; and

determining that the adjoining pixels belong in the same area if the compared properties of the adjoining pixels are less than predetermined thresholds for each property compared.

28. (CURRENTLY AMENDED) The image processing method of—as defined in claim 27, wherein the properties of the adjoining pixels compared include:

luminance and chromaticity values; or

red (R), green (G) and blue (B) values.

29. (CANCELED)

30. (CURRENTLY AMENDED) The image processing method of—as defined in claim 26, wherein the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the size of the each area includes determining that the each area belongs in the background area if the size of the each area is greater than a predetermined maximum area or less than a predetermined minimum area.

31. (CURRENTLY AMENDED) The image processing method of—as defined in claim 26, wherein the step of determining whether or not the each area of the plurality of areas belongs in the background area based on the average coordinate of the pixels of the each area includes determining that the each area belongs in the background area if the average coordinate of the pixels of the each area is outside of a predetermined oval or circle with the center of the oval or the circle at the center of the image.

32. (CURRENTLY AMENDED) The image processing method ~~of~~ as defined in of claim 25, further comprising abstracting a facial area based on the person area.

33. (CURRENTLY AMENDED) The image processing method ~~of~~ as defined in claim 32, wherein the step of abstracting the facial area based on the person area comprises determining that an area of the person area is the facial area when a color of the of the area is determined to be a skin pigmentation color.

34. (CURRENTLY AMENDED) The image processing method ~~of~~ as defined in claim 33, further comprising correcting the facial area to a target skin pigmentation color.

35. (PREVIOUSLY PRESENTED) The identification photo system as defined in claim 1, wherein said automatic correcting device is configured to separate the image data into an area such that two adjoining pixels are in the same area if a difference in data between the two adjoining pixels is smaller than a predetermined threshold, calculate a characteristic value of the area,

detect the background area based on the characteristic value of the area, and abstract the person area in the image data based on the background area.

36. (PREVIOUSLY PRESENTED) The identification photo system as defined in claim 35, wherein said automatic correcting device is configured to detect the area as the background area if a difference in the characteristic value between a predetermined reference background area and an area adjoining the predetermined reference background area is smaller than a predetermined threshold.

37. (PREVIOUSLY PRESENTED) The identification photo system as defined in claim 36, wherein the predetermined reference background area includes at least one corner area of the image data or an area out of an oval that is smaller than the image with its center at a center of the image data.

38. (PREVIOUSLY PRESENTED) The identification photo system as defined in claim 35, wherein said automatic correcting device is configured to detect the area as the background area if a number of pixels in the area is

larger than a first predetermined threshold or smaller than a second predetermined threshold.

39. (PREVIOUSLY PRESENTED) The identification photo system as defined in claim 35, wherein said automatic correcting device is configured to detect the area as the background area if an average coordinate of the pixels in the area is out of a circle or an oval with its center at a center of the image data.

40. (CURRENTLY AMENDED) An image processing method in which image data for an identification photo of a person is obtained from image data of the person, the image processing method comprising the steps of:

dividing the image data into an area such that two adjoining pixels are in the same area if a difference in data between the two adjoining pixels is smaller than a predetermined threshold;

calculating a characteristic value of the area, wherein the characteristic value of the area includes an average luminance, an average chromaticity Cb, and an average chromaticity Cr of the area;

detecting a background area based on the characteristic value of the area;

abstracting a person area in the image data based on the background area; and

sizing an image based on a size of the person area of the image data such that the size of the person area in the image is a predetermined person area size.

41. (CURRENTLY AMENDED) The image processing method as defined in claim 40, wherein the step of detecting the background area includes:

determining that an area adjoining a ~~predetermined~~—reference background area is the background area if

a difference in the ~~characteristic value~~ average luminance values of ~~between the predetermined~~—reference background area and the area adjoining the ~~predetermined reference background~~—area is smaller than a predetermined luminance threshold,

a difference in the average average chromacity Cb values of the reference background area and the adjoining area is smaller than a predetermined chromaticity Cb threshold, and

a difference in the average average chromacity Cb values of the reference background area and the adjoining area is smaller than a predetermined chromaticity Cb threshold.

42. (CURRENTLY AMENDED) The image processing method as defined in claim 41, wherein the ~~predetermined~~-reference background area includes at least one corner area of the image data or an area out of an oval that is smaller than the image with its center at a center of the image data.

43. (PREVIOUSLY PRESENTED) The image processing method as defined in claim 40, wherein the step of detecting the background area includes:

determining that ~~the~~an area adjoining a reference background area is the background area if a number of pixels in the adjoining area is larger than a first predetermined threshold or smaller than a second predetermined threshold,

wherein the reference background area includes at least one corner area of the image data or an area out of an oval that is smaller than the image with its center at a center of the image data.

44. (PREVIOUSLY PRESENTED) The image processing method as defined in claim 40, wherein the step of detecting the background area includes:

determining that ~~the~~ an area adjoining a reference background area is the background area if an average coordinate of the pixels in the adjoining area is out of a circle or an oval with its center at a center of the image data,

wherein the reference background area includes at least one corner area of the image data or an area out of an oval that is smaller than the image with its center at a center of the image data.

45-46. (CANCELED)

47. (CURRENTLY AMENDED) The identification photo system as defined in claim 1, the system further comprising:

a selection device configured to allow a user to select the predetermined size from a plurality of predetermined person area sizes,

wherein in the automatic correcting device changes the image of the person so that the size of the person area is the selected predetermined size.

48. (CURRENTLY AMENDED) The image processing method ~~of~~ as defined in claim 9, further comprising:

allowing a user to select the predetermined size from a plurality of predetermined person area sizes prior to changing the size of the image,

wherein in the step of changing the size of the image comprises changing the size of the image based on the selected predetermined size.

49. (CURRENTLY AMENDED) The image processing system as defined in claim 10, the system further comprising:

a selection device configured to allow a user to select the predetermined person area size from a plurality of predetermined person area sizes,

wherein in the image size correcting device changes the image of the person so that the size of the person area is the selected predetermined person area size.

50. (CURRENTLY AMENDED) The image processing method ~~of~~ as defined in claim 25, further comprising:

allowing a user to select the predetermined person area size from a plurality of predetermined person area sizes prior to sizing the image,

wherein in the step of sizing the image comprises sizing the image based on the selected predetermined person area size.

51. (CURRENTLY AMENDED) The image processing method ~~of~~ as defined in claim 40, further comprising:

allowing a user to select the predetermined person area size from a plurality of predetermined person area sizes prior to sizing the image,

wherein in the step of sizing the image comprises sizing the image based on the selected predetermined person area size.

52. (NEW) The identification photo system as defined in claim 1, wherein the automatic correcting device changes the size of the image after the person has been photographed to generate the image data of the person.

53. (NEW) The image processing method as defined in claim 9, wherein the step of changing the size of the image based on the size of the person area so that the size of the person area is the predetermined size is performed after the person has been photographed to generate the image data of the person.

54. (NEW) The image processing system as defined in claim 10, wherein the image size correcting device changes the size of the person area after the person has been photographed to generate the original image data of the person.

55. (NEW) The image processing method as defined in claim 25, wherein the step of sizing the image based on the size of the person area such that the size of the person area is the predetermined size is performed after the image is generated through photography.

56. (NEW) The image processing method as defined in claim 40, wherein the step of sizing the image based on the size of the person area such that the size of the person area is the predetermined size is performed after the person has been photographed to generate the image data of the person.

57. (NEW) The identification photo system as defined in claim 3, further comprising a facial color area abstracting device that reads the image and selects an image area of the image that is filled with specific image data that satisfy one or more predetermined conditions to represent a facial or flesh color.